



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,514	01/16/2001	Steven D. Conover	1064-US	5648

25263 7590 02/19/2003

J GRANT HOUSTON
AXSUN TECHNOLOGIES INC
1 FORTUNE DRIVE
BILLERICA, MA 01821

EXAMINER

KERNS, KEVIN P

ART UNIT	PAPER NUMBER
----------	--------------

1725

DATE MAILED: 02/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,514

Applicant(s)

CONOVER ET AL.

Examiner

Kevin P. Kerns

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 7 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "140" has been used to designate both a bench jig (page 10, line 12) and an alignment system (throughout pages 12-14). Both designations of "140" are also present in Figure 1. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "144" (page 11, line 9). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 7 and 28 are objected to because of the following informalities: in claim 7, 3rd line, "determined" should be deleted to overcome the prior antecedent basis rejection under 35 USC 112, 2nd paragraph (see paragraph 8 of the office action mailed June 5, 2002 (paper #5)). In claim 28, 2nd line, "mounting structure" should be changed to either "a mounting structure" or "mounting structures". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beranek et al. (US 5,896,481).

Beranek et al. disclose an optical subassembly (micro optical train) with a groove (for use as a reference mark) for aligning an optical device with an optical fiber, in which an optical subassembly comprises a micro-optical bench, onto which a molded device submount having an optical detector is installed (abstract; column 1, lines 64-67; column 2, lines 1-18 and 53-61; column 3, lines 1-6 and 28-37; column 4, lines 22-50; column 5, lines 38-52; and Figures 1-4). A solder groove is etched into the optical bench, with the optical fiber being precisely placed and adhesively secured to the bench by solder after alignment (column 2, lines 12-19; column 3, lines 28-37; column 5, lines 38-52; and Figures 1-3). One of ordinary skill in the art would have recognized that carefully measuring the positions of the optical components (as well as their respective optical properties; e.g. focal lengths) prior to alignment (either by active or passive alignment, or plastically deforming the mounting structures) would be carried out prior to soldering and (subsequent) use of the optical system. Such optical alignment to micrometer precision would be used only in anticipation of subsequent operation of the optical system, for which transmission of an optical signal would be monitored, measured, and adjusted, so that further adjustments could be made to one or more optical components within the optical train to achieve improved transmission properties, if necessary. With regard to the types of soldering processes to be used, one of ordinary skill in the art would have readily used one or more of the group of eutectic solder bonding, thermal bonding, and use of a placement and bonding machine or a

Art Unit: 1725

solder reflow oven, as would be appropriate for maximum efficiency in obtaining optical assemblies, as these soldering processes are art-recognized equivalents in the soldering/bonding art. The optical arrangements within the system of Beranek et al. are advantageous for achieving optimal alignment of the fiber member with the optical detector (Beranek et al.; column 1, lines 25-30; and column 2, lines 4-18).

Response to Arguments

8. The examiner acknowledges the applicants' amendment (paper #8) received by the USPTO on December 26, 2002. The specification objections and 35 USC 112, 2nd paragraph rejections have been overcome by the applicants' amendment. The drawings remain objected to, as "140" remains as the numeral for two different structures in Figure 1, such that Figure 1 itself must be corrected (see paragraphs 1 and 2 above). Claim objections remain from the prior office action, as discussed in paragraph 3 above. Claims 1-28 remain under consideration in the application.

9. Applicant's arguments filed December 26, 2002 have been fully considered but they are not persuasive.

With regard to the applicants' arguments on pages 8 and 9, addressing the 35 USC 103(a) rejection over Beranek et al., the applicants assert that Beranek et al. disclose a generally passive alignment technique, rather than the hybrid of active and passive alignment techniques set forth in the present application. However, the applicants do not directly claim their process as having a distinct advantage over

Art Unit: 1725

Beranek et al., as neither "active" nor "passive" alignment is claimed, either alone or in combination, to be a significant distinguishing feature. As discussed in paragraph 7 above, it would have been obvious to one of ordinary skill in the art to carefully measure the positions of the optical components (as well as their respective optical properties; e.g. focal lengths) prior to alignment (either by active or passive alignment) prior to use of the optical system. In other words, some degree of "measurement" of the positions of the optical components would be necessary to establish one or more reference points prior to the adjustment/alignment step(s), as one skilled in the art would have to consider the optical properties of the optical components and estimate/measure where to place such optical components on the optical bench to achieve more rapid alignment of the optical components within the optical train, prior to perfecting alignment.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Murphy, Woytaszek et al., O'Connor et al., and Murdza et al. references are also cited to show related art.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1725

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK
kpk
February 1, 2003


M. ALEXANDRA ELVE
PRIMARY EXAMINER